THE RESIDENTIAL INVESTMENT ADJUSTMENT IN SPAIN: THE CURRENT SITUATION

The residential investment adjustment in Spain: the current situation

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Introduction

Residential investment played a key role in the long expansion of the Spanish economy for more than a decade to 2007 and in the crisis it has undergone in recent years. This variable is of great importance for analysis of the cycle, in booms and busts alike, for several reasons: its spillover effects on various productive branches; its impact on the prices of the main asset making up household wealth; and its influence on the shape of household and corporate financial flows, given the high level of leverage residential construction entails.

This article aims to review the current situation of the housing investment adjustment in Spain, following the sharp turnaround seen in recent years in real estate activity and prices. To do this if first examines the role residential investment has played in output since the start of the last expansion, from the standpoint of both supply and demand, and the main channels of transmission through which it affects other productive branches and also agents' spending decisions. Next, a more detailed analysis follows of the trajectory of the housing investment adjustment since 2007, and recent developments in real estate prices are set out. Finally, a general assessment is made of the state of the adjustment and of the outlook for this investment component. While this process has undoubted effects on financing flows in the economy and on financial stability, these matters will remain outside the scope of analysis of this article.

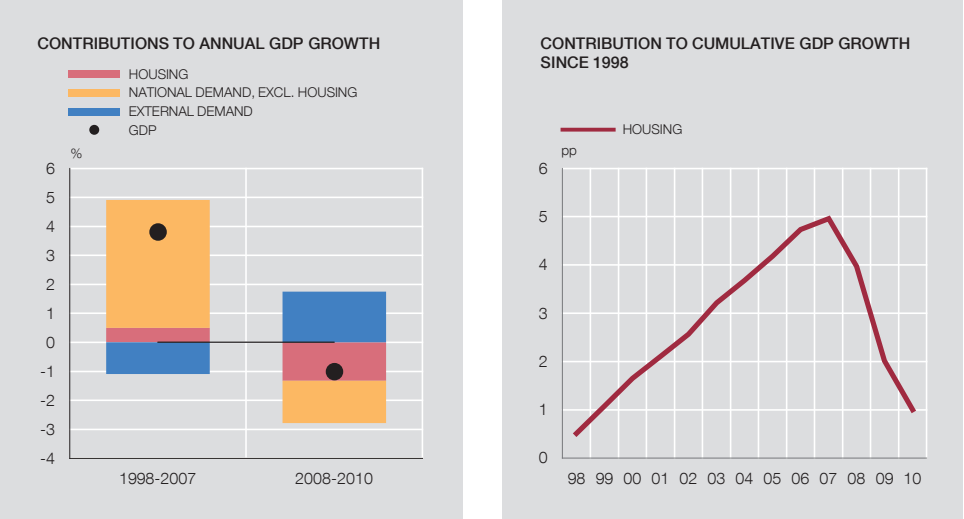
The role of the housing sector in the business cycle

In the recent period, the role of the housing market in cyclical developments in the Spanish economy has clearly been significant. Real investment in housing increased sharply in the expansion, more than doubling between 1998 and 2007, and it has since fallen abruptly, accounting in 2010 Q3 for scarcely half its level in 2007. As analysed in various papers, housing investment habitually shows a very marked cyclical profile, intensely affecting changes in GDP, of which it is occasionally a leading indicator [see Leamer (2007) for the case of the United States, and Álvarez and Cabrero (2010) for Spain]. However, it is no easy task to quantify the influence that residential investment may have exerted on the course of economic activity, owing to its multiple interactions with other areas of the economy and to the fact that its trajectory induces significant effects on other variables.

A starting point to measure such effects is to record the direct impact on activity that arises from changes in residential investment, through calculating its contributions to GDP growth. Under this approach, housing investment – which is a component of demand – contributed around 0.5 pp on average to annual GDP growth in the 1998-2007 period, which accounts for around 15% of the total increase in output in this expansionary phase. In the subsequent adjustment stage, the contraction in investment was faster and its negative contribution to GDP growth most significant, since it subtracted 1 pp in 2008, 2 pp in 2009 and, probably, around 1 pp in 2010. As a result, this decline represents a similar amount to the overall cumulative decline in GDP in this period (see Chart 1). If, in cumulative terms, the increase in housing investment contributed 5 pp to GDP growth in the decade from 1998 to 2007, this cumulative contribution fell to 1 pp over the period from 1998 to 2010.

An alternative for proxying the effects of changes in residential construction on activity would be to attempt to evaluate its direct impact on GDP from the supply standpoint, under the National Accounts framework. But the information available in this connection is limited. First, the

IMPACT OF INVESTMENT IN HOUSING (CONTRIBUTIONS TO GDP) CHART 1



SOURCES: INE and Banco de España.

supply-side data refer to the value added of construction as a whole, without distinguishing between housing and other construction. Further, even if this distinction were made, it should be borne in mind that the concept of value added excludes inputs, which may be recorded under other branches (e.g. in industry, inasmuch as industrial inputs, such as cement and other materials, have been used in construction), whereby the measurement of the contribution of housing to output on the supply side would be biased downwards.

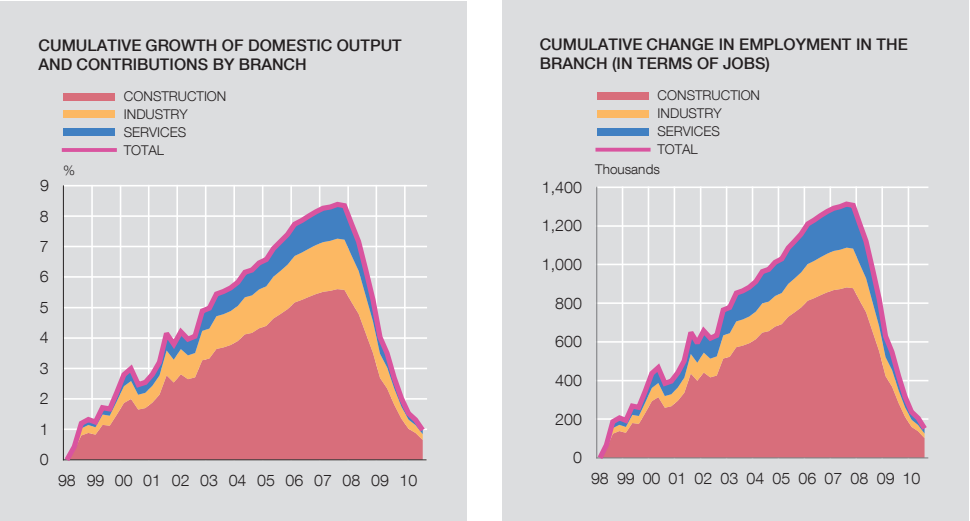
The input-output tables are a potential tool for proxying these spillover effects of residential investment on other productive branches.[1] On the basis of the 2005 National Accounts input-output tables, a simple exercise has been performed simulating the effects that would arise from the observed trajectory of housing investment in the 1998-2010 period. The results obtained suggest that the cumulative increase in residential investment from 1998 to 2007 would have contributed around 8 pp to total output growth[2] (including inputs), with a contribution from the construction sector of more than 5 pp, while the spillover effect on other branches, as a result of the supply of inputs for the real estate sector, would involve a contribution of 1.5 pp from industry and of 1 pp from services (see Chart 2). A similar analysis may be applied to employment. This has it that the increase in the production of housing allowed for economy-wide growth in employment of around 1.3 million people, accounting for 25% of the rise in employment in this period. Of this latter figure approximately 900,000 would have been concentrated in construction jobs, and the rest (400,000) distributed in equal proportions between industry and services.

Apart from these more accounting-based approximations, an evaluation can also be made of the macroeconomic implications of the adjustment process observed in housing investment. Here, an econometric model that takes into account the various transmission channels is of use. In particular, in the Spanish case, the effect of the decline in investment on employment in this

1. Despite the large-scale simplifications of an input-output model-based approach, which derive from the underlying assumptions made (the stability of the technical coefficients, the linearity of the relationships, the absence of changes induced by variations in relative prices, etc.), the symmetrical input-output tables contain worthwhile elements for the quantification and hierarchisation of specific disaggregated impacts in the area of the branches of activity. **2.** An output concept such as that which GDP represents cannot be derived from the input-output tables; rather, a broader concept of *total output* is derived, in which the inputs that all branches draw from other branches feature. Accordingly, these estimates cannot be compared with those made in terms of GDP.

IMPACT OF INVESTMENT IN HOUSING ON BRANCHES OF ACTIVITY (OUTPUT AND EMPLOYMENT)

CHART 2



SOURCES: INE and Banco de España.

sector and its induced impact on employment in other branches have had very negative consequences for household demand and for income expectations, which have tended to heighten the scale of the adjustment in spending and in activity. These second-round effects have proven particularly significant in Spain, given the relatively high level that housing investment as a proportion of GDP and employment in this productive branch had come to account for. Moreover, a significant factor in the analysis of the influence of the residential market on the business cycle is the trajectory of house prices and their impact on private consumption, via the so-called "wealth effects". These effects are substantial in Spain's case, though less significant than in the Anglo-Saxon countries, such as the United States and the United Kingdom. There, households habitually take advantage of rises in house prices, using the greater value of their collateral to extend their mortgage loans and finance thereby greater consumption, a practice that is relatively infrequent in Spain. If, so as to take into account these and other complementary channels, the impact of the adjustment is simulated through the Banco de España Quarterly Macroeconomic Model (MTBE), it is estimated that the fall in housing investment would account for a sharper cumulative decline in GDP than that estimated using the purely accounting approach presented earlier on the demand side [see Banco de España (2010)]. This estimate does not incorporate the foreseeable effects linked to the sectoral reallocation of the productive resources in construction that will probably take place mostly over the same period.

The trajectory of the housing investment adjustment

As discussed in the previous section, the housing investment adjustment has proven particularly sharp in recent years. Compared with its peak, the cumulative decline in residential investment amounted to 45% in 2010 Q3, against 13% at the bottom of the crisis in the early 1990s (see Chart 3). This difference is essentially due to the fact that in the expansionary cycle in the second half of the 1980s, supply did not respond on the same scale as in the recent boom [see Artola and Montesinos (2006)]: the peak for housing starts in that cycle was 300,000 (observed in 1989), compared with 750,000 starts in 2007, which has meant that the collapse in the construction of new houses has had a much more significant effect on the current cycle. The outcome of this strong expansion was that housing investment came to account in Spain for a high percentage of GDP. This figure stood at 9.5% of GDP in nominal terms in 2007, higher than that of other economies undergoing an intense real estate boom, such as the United States and the United Kingdom, but less marked than that in others such as Ireland

(see Chart 4).[3] Further to the subsequent adjustment, the weight of housing investment in GDP in Spain was close to 4% in 2010, thus below the level recorded in the previous cycle, and also below what this investment component accounts for in the euro area.

To characterise the current phase of the real estate market adjustment and to plot its potential course, various indicators must be consulted. But, previously, a clarification is perhaps needed to analyse this adjustment: in National Accounts, housing investment reflects more a supply-side than a demand-side concept, since all built houses, irrespective of whether they are finally sold, are included in residential investment as featured in these accounts.[4] Hence, National Accounts reflect under residential investment an estimate of the houses that have been completed in each quarter. One simple means of approximating this item is to observe the difference between the number of housing starts and completed houses: when more houses are started than are completed, the number of houses under construction increases and, with it, the scale of residential investment (and vice versa).[5] As Chart 4 shows, in recent quarters the difference between the number of housing starts and completions is gradually becoming less significant; accordingly, if the pace of housing starts were to hold at its current level, the rate of construction of new houses and, along with this, that of residential investment might stabilise over the course of 2011.

Consideration must also be given in the analysis of housing investment to the fact that real estate supply has singular features, with fairly prolonged maturity periods, given the need for prior land development, the requirements of medium-term urban planning and, finally, once the projects have been approved, a long lead-time, which on average stands at between 18 months and two years. These characteristics mean that the supply of housing can only respond with some lag to changes in demand. Thus, sharp changes in the demand for housing will only gradually affect investment as reflected in National Accounts, since the latter will only show how these changes in demand will influence new housing starts[6] and, in short, construction dynamics in the following quarters.

In the recent adjustment phase, the consequences of the natural lag in the supply response to changes in demand have been clearly apparent. Although housing starts began to fall back in the face of the first signs in early 2007 of some slowdown in the demand for housing, numerous projects started two years earlier were completed in this period. And adding to these, especially in 2008, were those begun when the market was still looking very buoyant (see Chart 5). This mismatch between the lower demand for new housing and the still-high completion of projects undertaken during the boom period led, therefore, to a sharp build-up in unsold new housing.

Estimating the trajectory and the number of new unsold houses is not straightforward; among other reasons, because the information on housing supply and demand in Spain is drawn from different statistical sources, based on different methodologies, which means that any comparison should be viewed with great caution. The estimate set out here is based on an indirect approach, which uses the available statistics on administrative records relating to housing supply and demand. In the case of supply, the number of completed houses is approximated using building completion certificates, published by the Spanish Ministry of Development, while on

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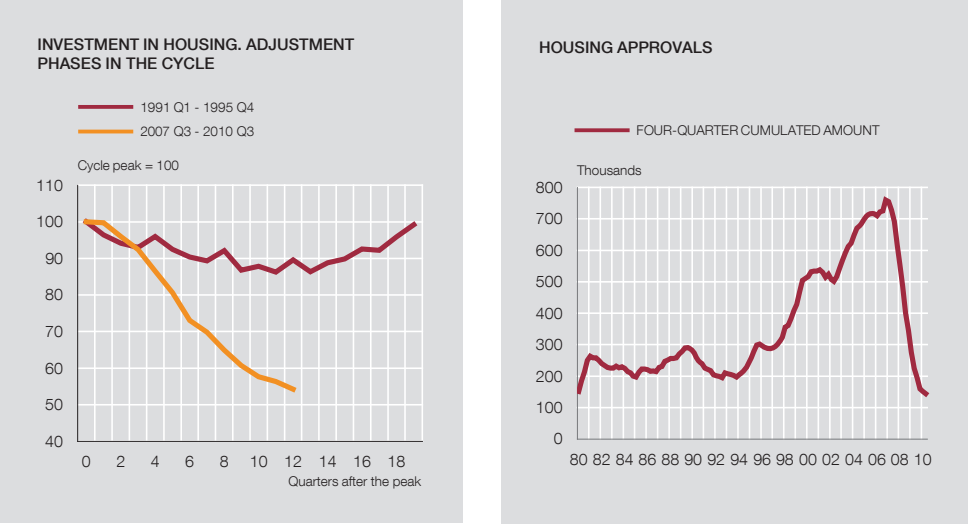
3. See Marqués et al. (2010) and, for a broad overview of housing markets and of their macroeconomic implications in the main European countries, De Bandt et al. (2010). **4.** Completed but unsold houses do not therefore feature under inventories in these accounts, but under residential investment itself. **5.** The National Accounts estimates are more complex, since the rate at which investment is committed may differ in the different phases of the construction process. Moreover, included under housing investment is renovation work, which is not analysed here but which may account for around 20% of residential investment. **6.** But, for instance, it cannot be ruled out that a sharp reduction in demand may lead certain projects already under way to grind to a halt, especially if they are at an incipient stage.

THE RESIDENTIAL INVESTMENT ADJUSTMENT. COMPARISON BETWEEN CYCLES

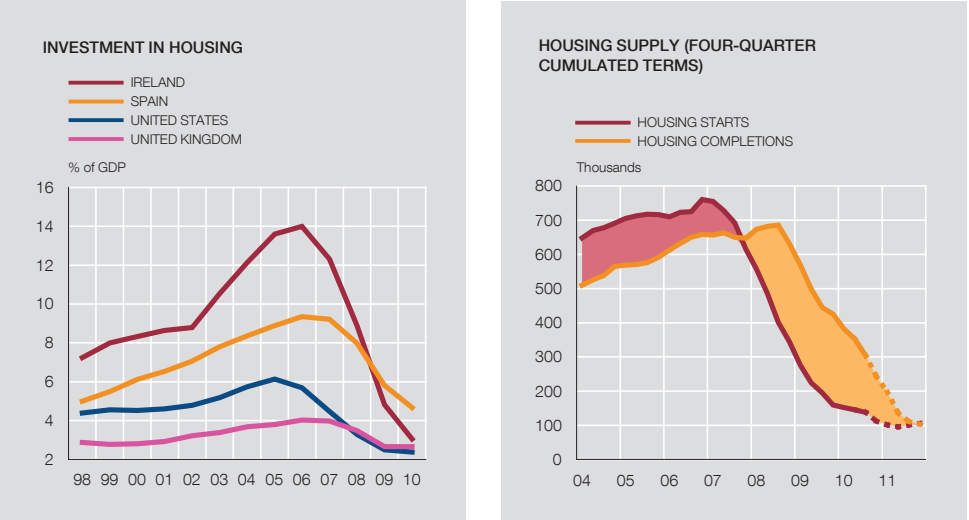
CHART 3



SOURCES: INE, Ministerio de Fomento and Banco de España.

RESIDENTIAL INVESTMENT AND HOUSING SUPPLY

CHART 4

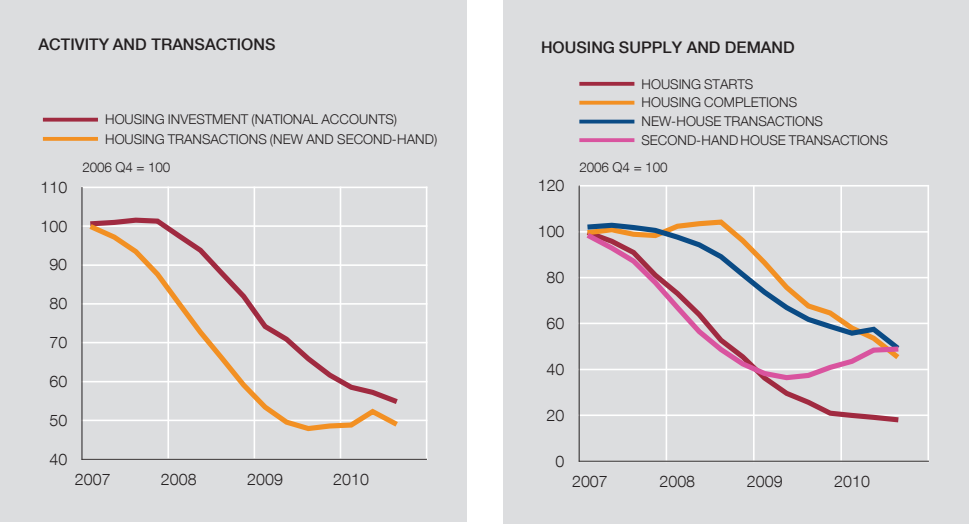


SOURCES: AMECO, Datastream, Ministerio de Fomento, INE and Banco de España.

the demand side, the number of new-house transactions is estimated through notarial records on property transfers. Even during the boom years, these two statistics show different levels (with a greater level of supply than of demand), whereby the present estimates of the stock of unsold housing have been made by accumulating, since end-2003, the differences between the volume of finished housing and the number of new-house transactions, meaning that it is assumed that this stock was relatively insubstantial in 2003, which appears to be reasonable.

A further factor for consideration in this estimate is that a portion of the housing is constructed under a "build-it-yourself" regime, in which case the execution of the sale/purchase by means of public deed is not obligatory. This means that there is a certain number of housing units, ranging between 70,000 and 80,000 per year, which might feature in the statistic covering building completion certificates, but not in sale and purchase figures, which are drawn from notarial records. Although there is information on these "build-it-yourself" houses, it cannot be known to what extent owners public-deed the transaction or not. Accordingly, in the estimate

THE ADJUSTMENT IN THE HOUSING MARKET IN SPAIN CHART 5



SOURCES: Ministerio de Fomento, INE and Banco de España.

presented here, what are shown are bands depicting the possible scale of the stock of unsold housing, depending on whether it is considered that all houses constructed under the "build-it-yourself" regime were public-deeded (in which case the total number of houses built under this regime would have to be added to property transfers).

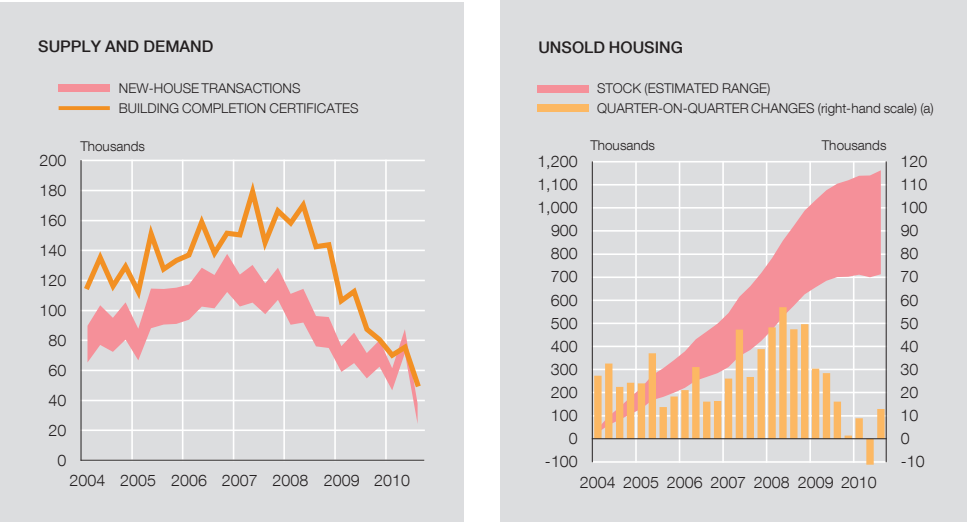
Under these assumptions, it is estimated that the stock of unsold housing expanded sharply in recent years, especially until late 2009. This is because although building completion certificates moved on a declining trend from 2008, so too did the demand for housing and with a lower level. In contrast, it is estimated that the stock of unsold housing has tended to stabilise in 2010, with some oscillations in the demand for new houses, especially in Q2 and Q3, which might be linked to the bringing forward of purchases to Q2 owing to the VAT rise in July this year. It was estimated this stock was standing at between 700,000 and 1.1 million housing units in 2010 Q3, accounting for between 2.8% and 4.6% of the estimated stock of housing in Spain (see Chart 6).[7] Over the coming months a strong decline in completed housing is expected (corresponding to fewer housing starts in 2008 and 2009, following the outbreak of the crisis). As a result, if demand were to stabilise (it may even increase in the closing months of 2010 owing to the elimination of the personal income tax house purchase relief for incomes above a certain threshold, with effect from 1 January 2011), the stock of unsold housing would gradually be absorbed.

It is not possible to estimate with accuracy what are principal or second dwellings in this stock of unsold housing, just as it cannot be known exactly what the breakdown between these two types is.[8] In any event, the regional and provincial data offer some idea of the relative significance of second homes, insofar as these are more abundant in the coastal provinces.

In fact, an estimate of the regional stock of unsold housing can be made on the basis of information providing such a breakdown. In this instance, the stocks of unsold housing above the

7. The former Ministry of Housing released in May 2010 an estimate of the stock of unsold housing in 2009 which is similar to the lower point of the range estimated in accordance with this methodology. **8.** The latest direct estimate of their numbers is taken from the 2001 housing census, which showed that there were 3.4 million second dwellings (accounting for 16% of the total) and 3 million empty houses (15% of the total). The bulk of the housing subject to the census consisted of principal dwellings (14 million, 68% of the total stock of housing, which amounted to almost 21 million units that year).

THE STOCK OF UNSOLD HOUSING CHART 6



SOURCES: Ministerio de Fomento and Banco de España.

a. The figures shown relate to the lower point of the estimated range of unsold housing.

national average, in terms of the existing stock of housing, can be seen to be concentrated in certain regions in which, presumably, the weight of second homes is high. This is consistent with the signs that the real estate boom substantially expanded this housing segment and also with the fact that the demand for second homes has possibly fallen back more significantly in the crisis (see Chart 7).

The presence of this sizeable stock of unsold housing is obviously a constraint on the speed of recovery of residential investment, insofar as a portion of the new demand will not have to be met through the construction of new property, but rather through the sale of housing that has already been built. Yet it should not be forgotten that there is no one, single housing market in Spain; rather, there are many local markets. Hence, situations of excess supply in some markets (whether provincial markets or, for example, coastal housing markets) may coincide with other situations involving unmet demand. This means it is not necessary for the stock of unsold housing to disappear completely in order for residential investment to grow again. By way of illustration, Chart 7 shows that in Spain there are regions accounting for around 40% of the country's total population that have a stock of unsold housing below 2% of the total stock of housing, which might be considered to be a level not far off the frictional mismatch that would always exist in this market.[9]

The rate of absorption of the housing overhang will depend on the buoyancy of demand, which, in turn, is influenced by numerous factors. These include financial conditions, the macroeconomic outlook and household income-growth and employment prospects, demographic movements and expectations regarding property price adjustment. In particular, affordability is a key factor that will affect residential demand in the future and which depends, as well as on some of the aforementioned factors, on the course of house prices, which are examined in detail in the following section.

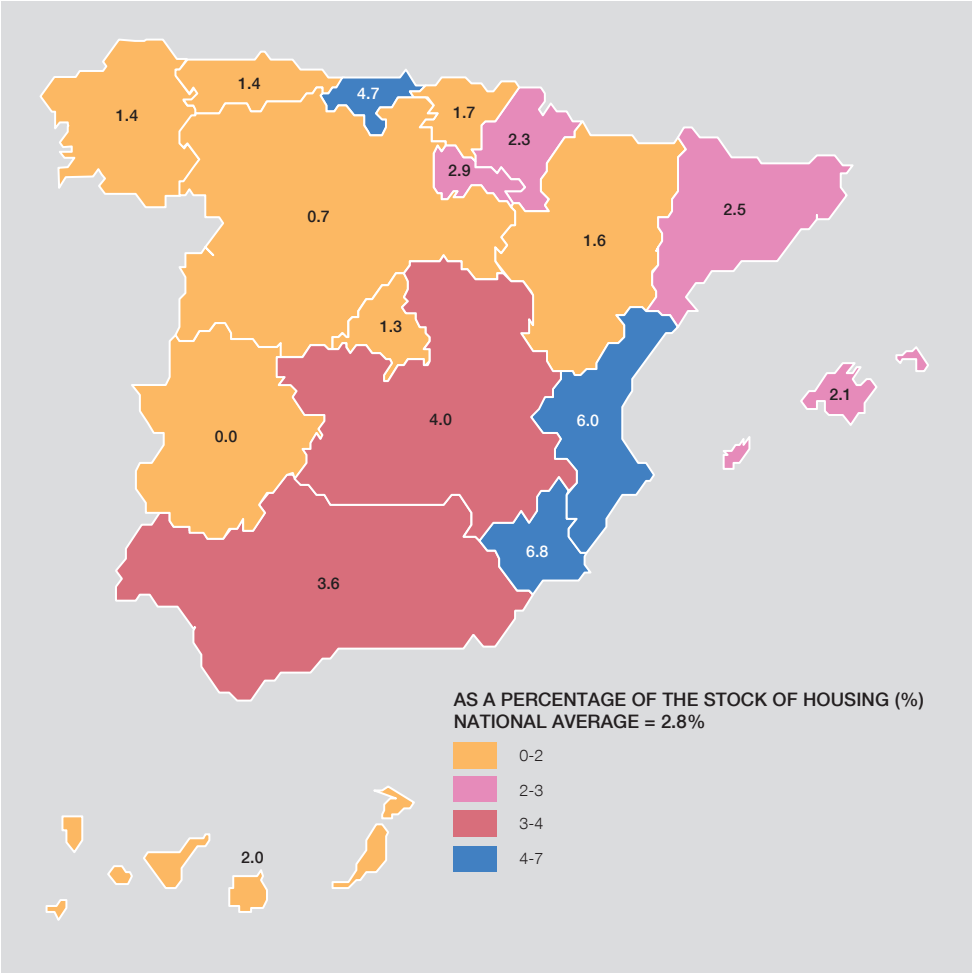
Recent developments in house prices

During real estate booms, residential investment expands and, habitually, house prices rise strongly, given the short-term rigidity of supply in responding to these increases in demand, as

9. In this chart, the figures depicted correspond to the lower point of the estimated range of unsold housing, i.e. to the assumption that housing under the "build-it-yourself" regime have not been public-deeded.

ESTIMATE OF STOCK OF UNSOLD HOUSING.
REGIONAL COMPARISON (2010 Q3)

CHART 7



SOURCE: Banco de España.

discussed in the previous section. For this same reason, in adjustment phases a stock of unsold housing tends to emerge, which exerts pressure on property prices. Further, in some countries such as Spain, prices show a degree of downward stickiness in these adjustment phases, insofar as certain owners prefer to defer the sale of their houses (or opt to rent them out instead) before accepting a drop in prices, which prompts asymmetrical behaviour of residential prices.

In Spain's case, house prices began to slow in 2005, but a fall in their levels only began to be seen in 2008. On information from the Ministry of Development, based on appraisal values, the cumulative decline in prices in real terms was 16% from 2007 to 2010 Q3 (-12.8% in nominal terms). In recent quarters the rate of decline of prices has eased, with milder quarter-on-quarter falls which, in part, could be due to the momentum of demand arising from the above-mentioned tax changes and from the improvement in the affordability indicators as a result of lower interest rates.

This adjustment is similar when house prices are assessed using the data drawn from notarial transactions, as INE does in its house price index (IPV). In this case, the adjustment in real terms to Q3 was 17%, with a significant difference in the adjustment of new (-10%) as opposed to second-hand (-22%) house prices. It should also be noted that the real cumulative adjustment of house prices from 2007 to 2010 is similar to that which took place in the first

years following the recession in the early 1990s. In that cycle, the real-terms decline in prices continued for two years more (see Chart 8).

This average adjustment masks substantial differences in terms of the type of housing, its geographical or in-town location, etc. Second-hand house prices too have adjusted to a greater extent than new housing. Also, the price adjustment in the second-home market (such as the coastal regions) has been greater than that in the provincial-capital markets, where habitual dwellings are concentrated. Even within the same city, house prices in the outlying districts have been seen to have fallen more than in the centre.

In the provincial data, some divergences are discernible in the degree of adjustment of house prices from their maximum levels (see Chart 9). While some Mediterranean coastal provinces or provinces bordering the Madrid region have posted nominal-terms price declines of close to 20% from their peak, in other areas, in contrast, the cuts have been very small or even non-existent, in contrast to the national average fall of 12.8%. Perhaps one of the factors that has influenced the differing behaviour of house prices across Spanish provinces relates to the downward pressure exerted by the stock of unsold housing that has built up in the most recent period (see Chart 10). It can also be seen that this stock is inversely related to housing starts in recent years.

Outlook and conclusions

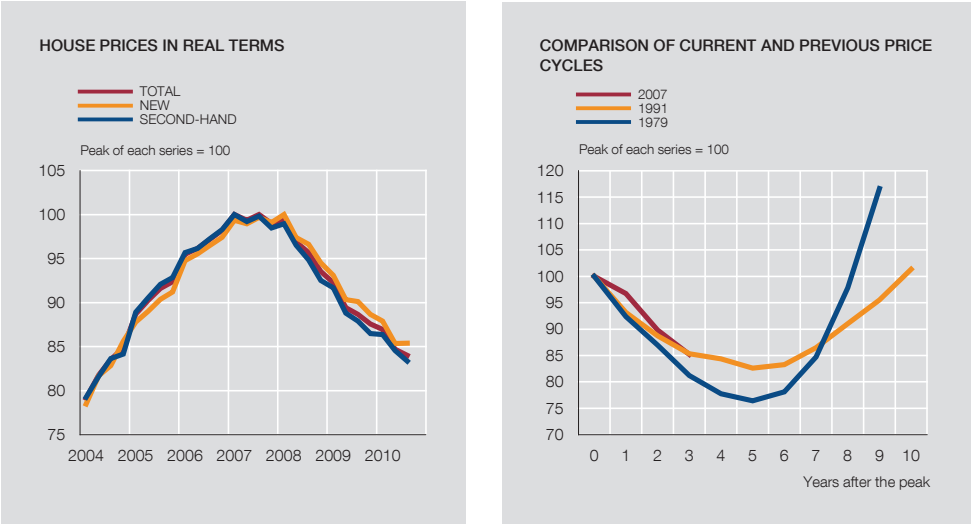
This article has reviewed the adjustment of residential investment and of house prices in recent years. If this real estate adjustment is analysed in terms of its impact on residential investment, the demand for housing or employment in the sector, it could be said that the bulk of the adjustment process is already over. The decline in these variables has been most sharp and swift: residential investment has dipped from accounting for 9.5% of GDP in 2007 to 4.5% in 2010 Q3, below the former low; housing starts in 2010 will probably be only one-sixth of starts scarcely three years earlier; the demand for housing represents only half of that observed in 2007. Although there are no data on employment in the housing sector, the strong decline in employment in construction (one million fewer workers since 2007) is probably concentrated in this sector. In all these cases, the latest developments suggest that these variables are close to stabilising, if they have not done so already.

However, in its wake this adjustment has left a high level of unsold housing, which weighs on the recovery in residential investment. In this respect, housing starts – the basic component of residential investment – might in the near future be on a rather limited scale, below the low reached in the recession in the early 1990s: in the 12 months to 2010 Q3, there have been only 137,000 housing starts, with a fairly stable profile that is consistent with the existing overhang and with the sluggishness of economic activity. While this figure might increase in the coming quarters, it does not seem likely that it will rapidly become more dynamic.

In light of the experience of past cycles, of other countries and of changes in the affordability indicators, which continue to suggest that house prices absorb an excessively high portion of household disposable income, the adjustment of house prices might continue. As earlier discussed, certain tax factors may have softened the adjustment of prices in 2010. But into 2011, it seems likely that prices will continue easing, meaning that the financial effort needed to purchase a house will not increase as the tax relief for higher-earning taxpayers disappears. In this respect certain regulatory changes, such as the greater tax neutrality between decisions to rent or buy, should tend to moderate house prices. At the same time, the very difficulties some owners encounter in selling their houses and the regulatory changes to provide greater legal security to rental contracts might encourage

THE ADJUSTMENT OF HOUSE PRICES

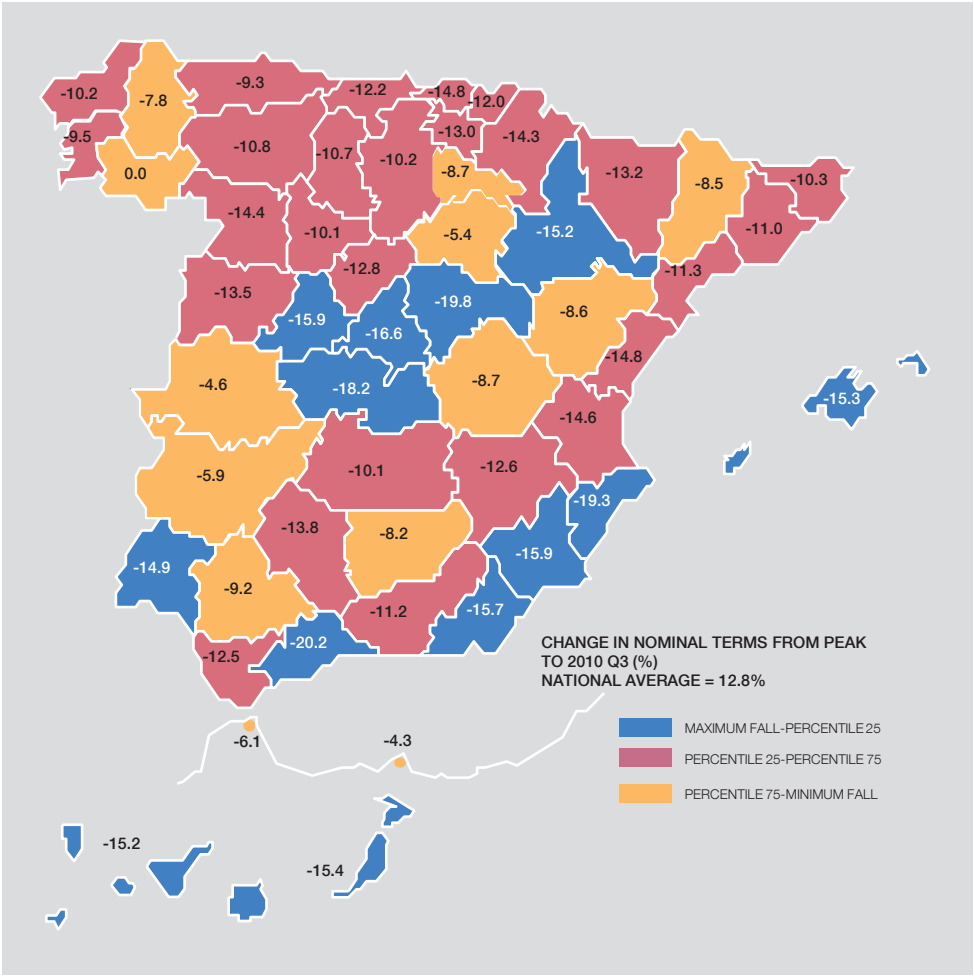
CHART 8



SOURCES: Ministerio de Fomento, INE and Banco de España.

PROVINCIAL BREAKDOWN OF ADJUSTMENT OF HOUSE PRICES

CHART 9



SOURCES: Ministerio de Fomento and Banco de España.

STOCK OF UNSOLD HOUSING, PRICES AND ACTIVITY CHART 10

SOURCES: Ministerio de Fomento and Banco de España.

more owners to rent out their houses, increasing the existing supply and providing ready access by more households to residential services through this means, which does not require debt.

Evidently, the future trajectory of the adjustment will hinge essentially on the ensuing demand for housing. The potential demand for housing depends on various factors. Some, such as demographics, will not exert as expansionary an effect as they did in the boom period in light of the forecasts recently released by INE. These estimate a stabilisation of the population in the coming decade, with a positive but small contribution of migratory flows. All told, the trend observed during the expansion towards smaller household size, which came to a halt in the crisis, might be renewed, which would boost demand. In this respect, the high proportion of Spanish youths who live in the family home compared with those in other countries[10] suggests that, if income prospects improve and house prices ease, pent-up demand might emerge. Nor can it be ruled out that in this adjustment period some level of demand may have held back awaiting a greater adjustment in prices, whereby a fall in prices might encourage new purchases.

All these factors indicate that we will witness a gradual absorption of the supply overhang that has built up. This will be slow, meaning that residential investment will not contribute to the expansion of economic activity in the near future, but it might progressively become more dynamic as prices adjust and economic prospects improve. It is also important to note that, set against these general features of the process at the national level, regional and provincial differences might be seen, in that certain key variables of this process (e.g. the supply overhang) differ substantially in local housing markets, meaning that this situation of slow improvement might run alongside a degree of buoyancy in some areas and more persistent sluggishness in others.

20.12.2010.

10. See Becker et al. (2010).

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